



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

## NOTES ON POLYTRICHUM COMMUNE.

J. FRANKLIN COLLINS.

(Reprinted by permission from "Preliminary Lists of New England Plants" in *Rhodora*, 8: July, 1906.)

No species in the list has been more difficult to interpret than *Polytrichum commune* with its many forms and variations. The species, as described by Dillenius, Linnaeus, Bruch and Schimper, Dixon, Limpricht, Roth, Lesquereux and James, and others, appears to be much less common than has been generally supposed. It is impossible at the present time to place satisfactorily some of the forms of this species, yet certain conclusions have been reached which would seem to justify preliminary publication, especially as it is very desirable that the attention of collectors be called to the necessity of getting abundant material from various habitats and localities—more particularly perhaps from bogs, swamps, and other wet places. The writer would be very glad to get specimens from any and all parts of the country—especially from New England—with a view of attempting to clear up the uncertainty in regard to several varieties and forms, the identities of which are at present too problematical to appear in the above list. It is quite possible that the interpretation of *P. commune*, as outlined here, may have to be revised when more material is at hand. Briefly, *P. commune*, as here restricted, is the fairly tall plant of moist shaded places with the gametophyte normally at least 10 cm. high, stems mostly simple, leaves remote, the upper free part (blade) about 1 cm. long and appressed when dry but having the apex recurved and the shining leaf-bases conspicuous; seta 6–11 cm. and capsule 5 mm. (4–7) long; calyptra golden brown.

The var. *perigoniale* is a smaller plant (4–8 cm. high) of drier and more exposed situations, with leaves smaller and more crowded, so that, when dry and appressed, the leaf-bases are ordinarily not seen; seta and capsule shorter (the latter 3–4 mm. long). As a rule this variety is darker colored in all its parts and more compact than is the species, suggesting a more xerophytic plant. The perichaetial leaves, although usually more conspicuous and more prominently hyaline, are not necessarily any larger than in the species. This variety undoubtedly occurs in Vermont though no record of its occurrence there has been found.

The var. *uliginosum* is just such a variation as might be expected in a very moist, well shaded, and humid situation; that is, with elongated and more or less flexuous stems, longer and most distant leaves. In the dried state a very pronounced character is the abruptly squarrose upper portion of the leaf, the apex of which is often somewhat recurved or even circinate. It should be expected in all the New England states.

From an examination of some thousands of leaf sections of *P. commune* and its allies during the past year it is quite evident that there is much more variation in the lamellae than might be expected from reading standard descriptions; for instance, the end cells in sections may vary from strongly crescentric to circular in the same leaf, depending respectively upon whether the section is cut near the middle of the leaf or down near the sheath. Like-

wise, the heights of the lamellae vary. Again, the lamellae of immature leaves differ from those of mature ones. The leaves and lamellae of new shoots differ from those of the old shoots when the amount of humidity or soil moisture is altered. This can easily be shown experimentally by transferring a plant from a moderately dry situation to a dish of water under a bell jar and later comparing the leaves of the new shoots with those of the old. The thickness of the outer wall of the end cell is also a variable quantity. In fact it is quite evident that certain external factors (climatic and edaphic as well as physiographic) play no small part in determining the form and structure of the lamellae, the leaves, and even the whole plant. The query suggests itself, "Are these factors alone wholly responsible for the existence of any of the varieties which have received distinctive names?" Here is a good field for experimentation.

*Polytrichum formosum* was reported from various New England states prior to 1885. Undoubtedly the bulk of the material so reported must be referred to *P. Ohioense* as has been repeatedly shown in various articles and catalogues since the date mentioned.

*Polytrichum gracile* was reported from Massachusetts and New Hampshire in 1847 by William Oakes (Hovey's Magazine, 13: 174). Dr. A. J. Grout writes me that the only specimens of this species which he has were collected in Vermont, so the New Hampshire locality mentioned in RHODORA (1: 53) is undoubtedly an error. The Vermont plants were collected on both Willoughby Mt., and on Mt. Mansfield by Dr. G. G. Kennedy.

*Polytrichum jensenii* is a plant which is known from Lapland, Finland, Spitzbergen, Greenland, Alaska, and the Yellowstone Park. The Maine plant which is here referred to this species grew amongst sphagnum in a bog at Presque Isle. It differs mainly from authentic material, kindly loaned by Mr. J. M. Holzinger, in having longer and somewhat flexuous stems, less rigid leaves, and thinner-walled marginal cells of lamellae.

Brown University.

## DIE EUROPAEISCHEN TORFMOOSE.

BY G. ROTH, VERLAG VON WILHELM ENGELMAN, LEIPZIG.

Herr G. Roth, whose exhaustive work on the European mosses was ably reviewed by Prof. Holzinger in the pages of THE BRYOLOGIST last year (Vol. viii, p. 113), has placed students of bryology under further obligations by the publication of his work on the European Sphagnaceae. This work consists of eighty pages of letter press with eight plates, uniform in size and method of reproduction with his "*Europäische Laubmoose*," and it is published at the very moderate price of 3.20 marks.

After an introduction, giving a concise account of the intimate structure of these remarkable plants, Herr Roth, in the systematic portion of his work, follows very largely the lines taken by Dr. C. Warnstorf, familiar to many English students, in Mr. S. C. Horrell's "*European Sphagnaceae*," and lately further amplified by Dr. Warnstorf himself, in his "*Leber und Torfmoose der Mark Brandenburg*."